



Water Plan Update 2018

Case Study: Statewide Flood Finance Planning

**CA Water Plan Update 2018
Plenary Meeting**

October 25, 2016



Flood Management Financing

Effective flood management requires:

- Shared intent to achieve long-term outcomes
- Demonstrating value to public
- Stable and sustainable funding
- Creative approaches to working together and to securing funding



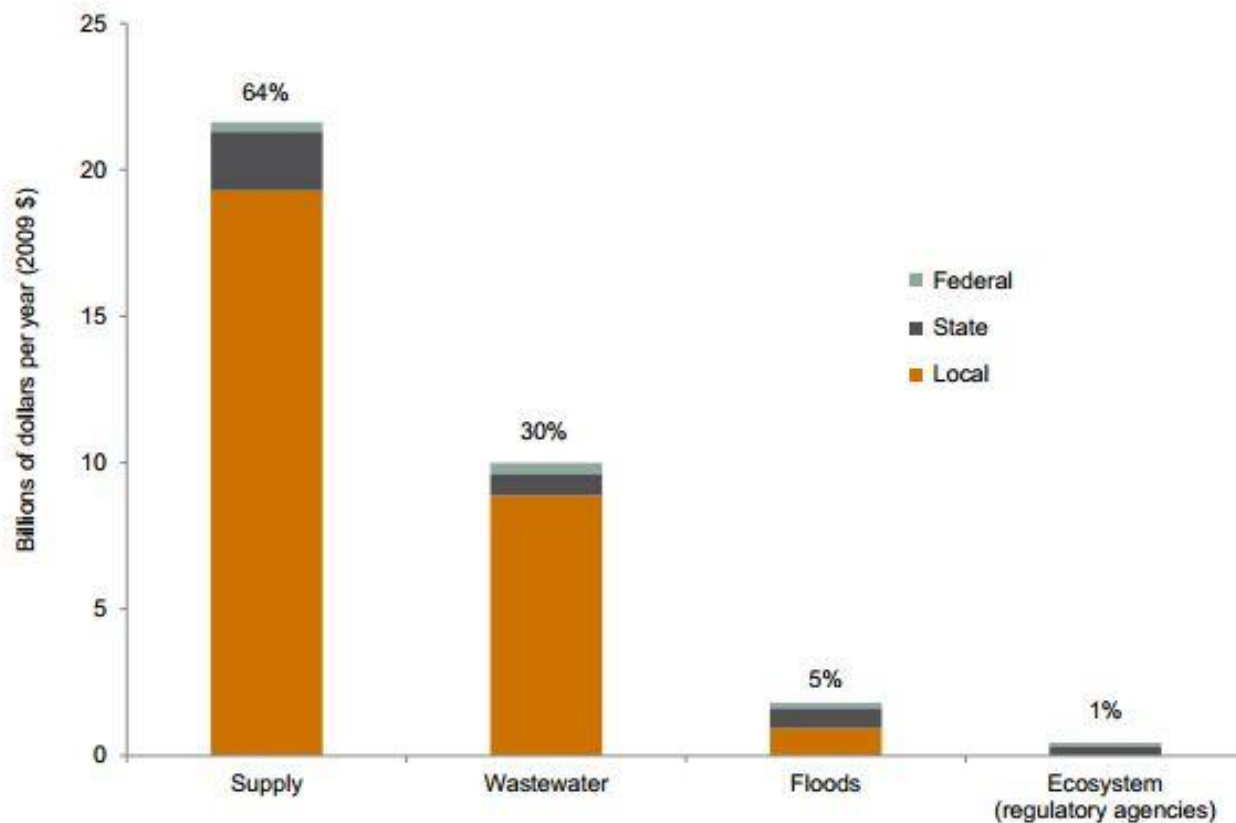
Shared Intent to Demonstrate Value

To successfully demonstrate value, we must:

- Set clear intent, before any actions are taken
- Identify and prioritize desired changes to the system, and organize intended actions accordingly
- Regularly observe and make assumptions about system function to test cause and effect
- Assess the effectiveness of each strategy and action
- Learn and adapt over time

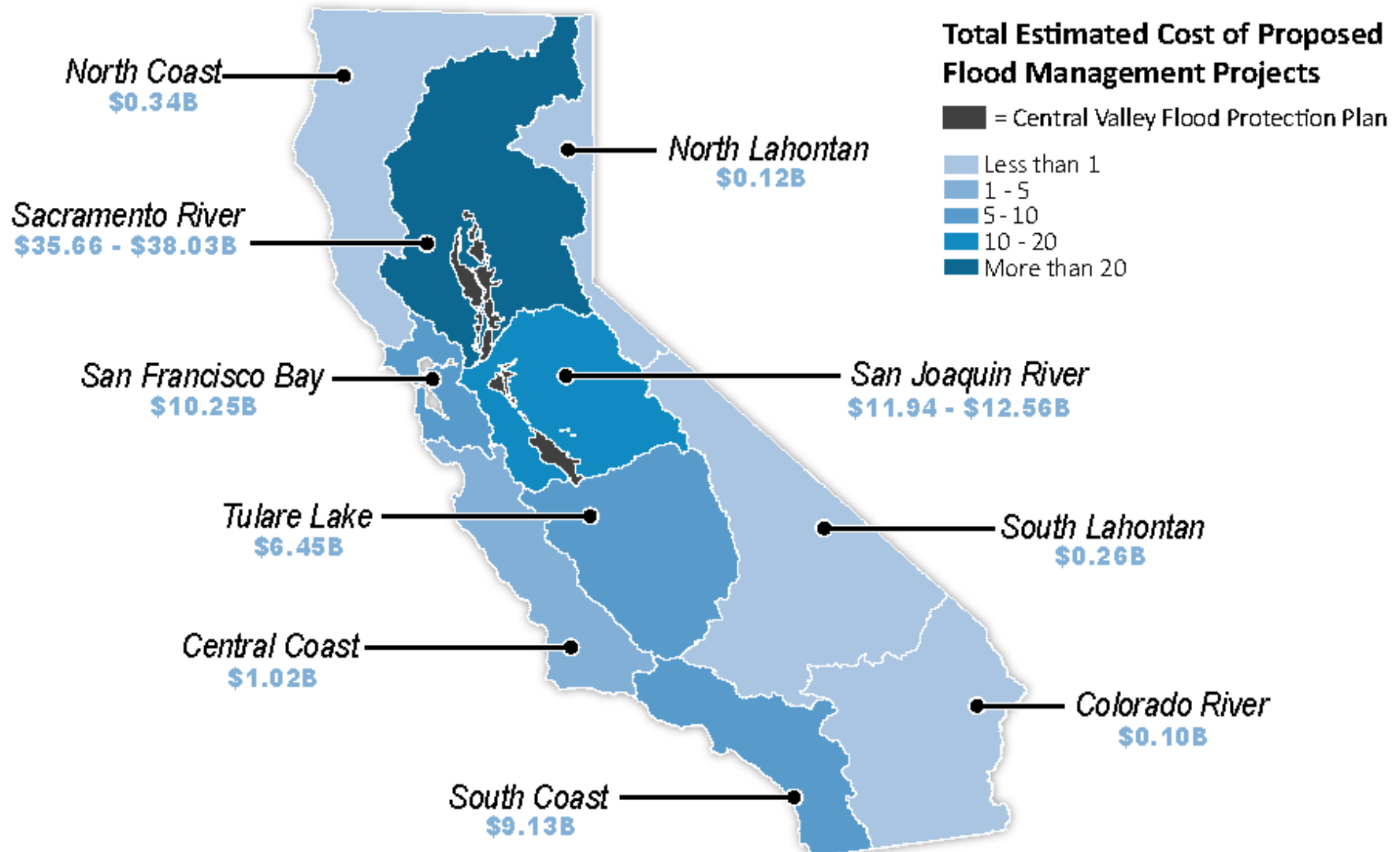
Looking at Recent Water Management Spending Trends

Water sector spending by function, late 2000s

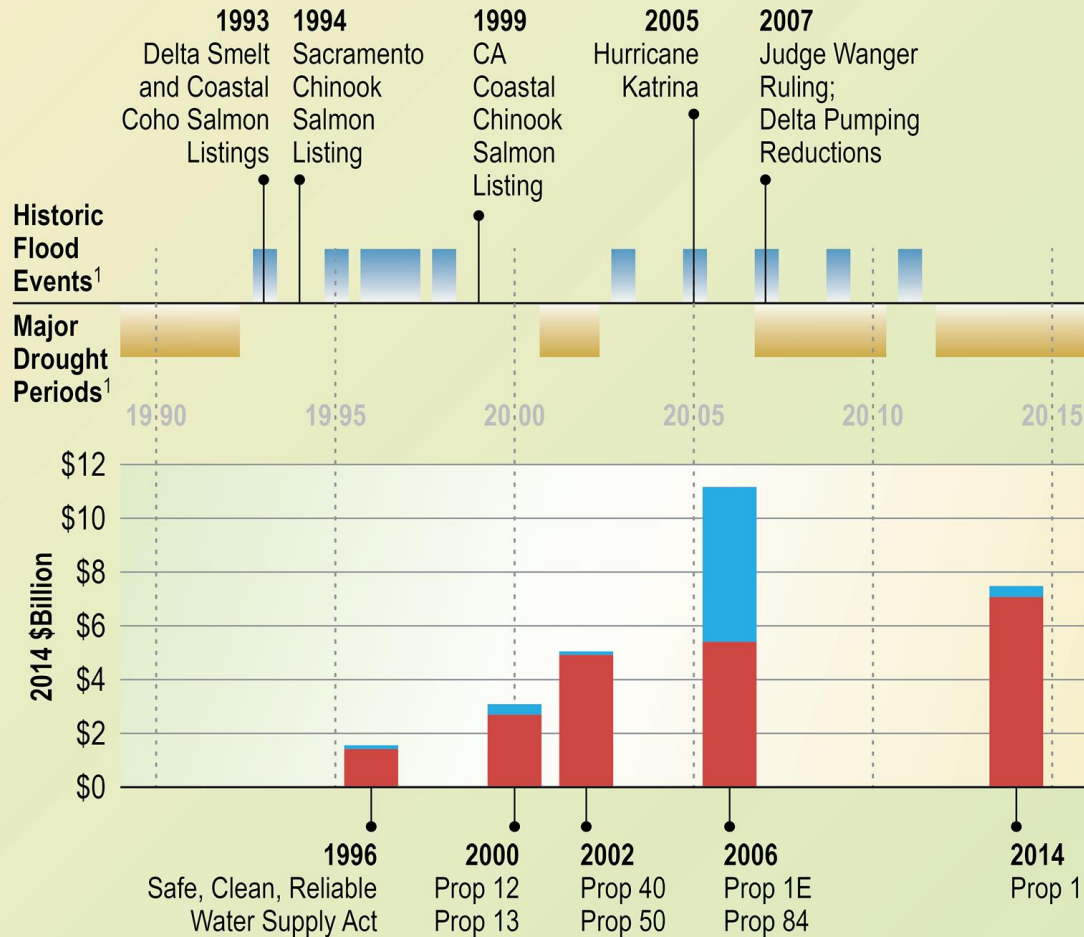


Source: 2012 PPIC Water and the California Economy Report

Flood Management Needs Exceed Available Funding



Flood Management Financing is Reactive and Inconsistent



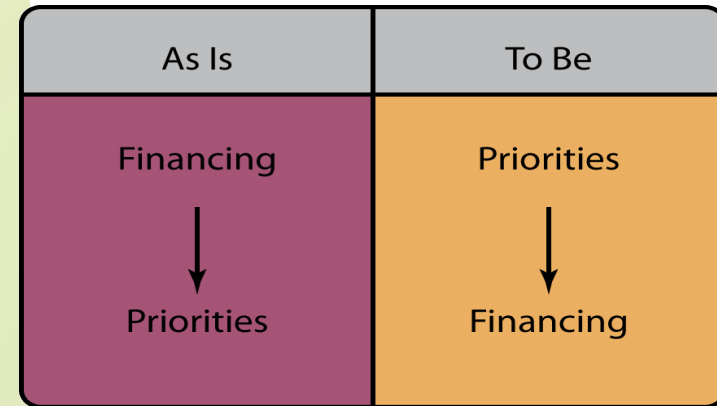
Management Categories:

Blue bar: Flood Management Activities

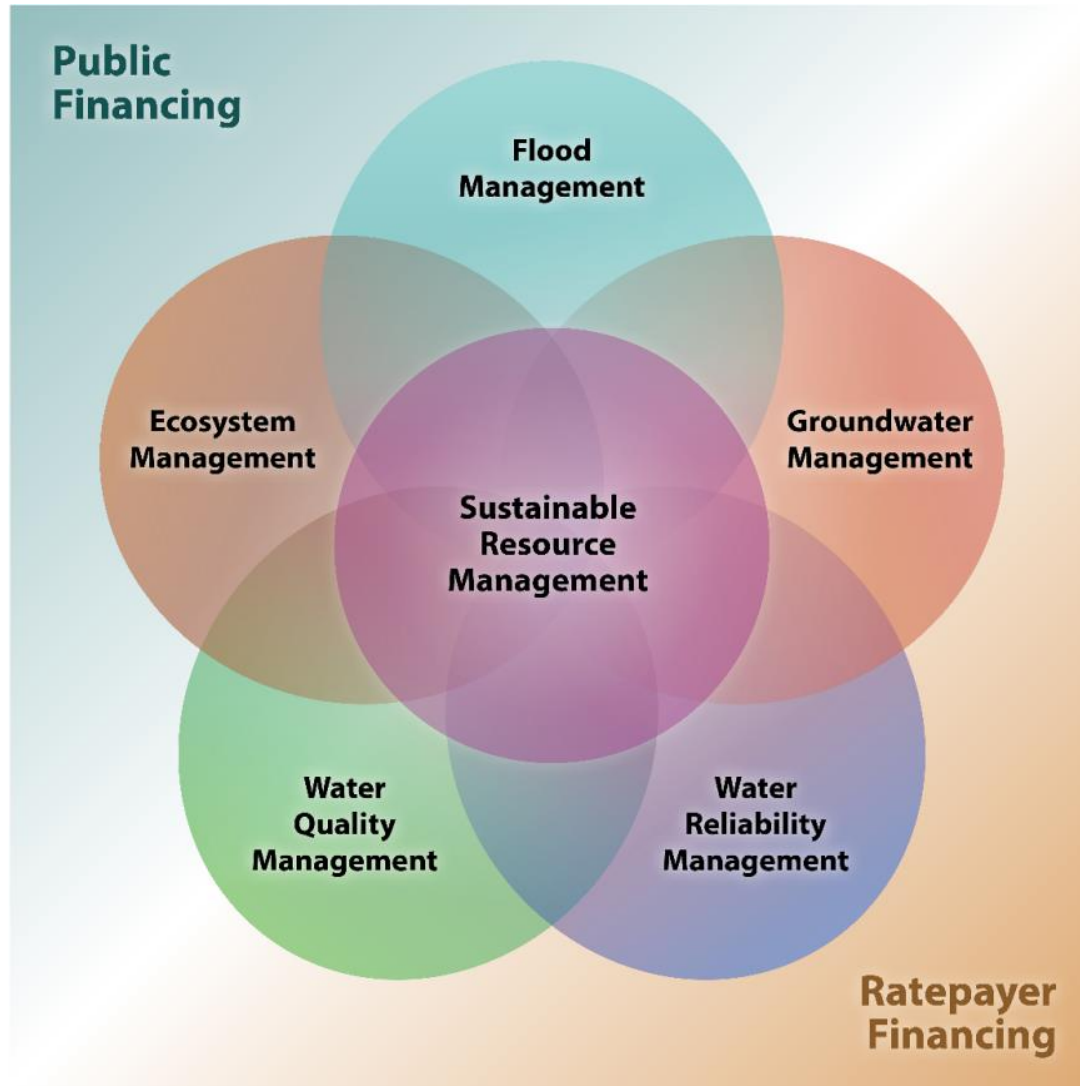
Red bar: Other Water Management Activities²

¹ Major flood and drought periods were established by looking at historical references as listed in the *California's Flood Future Report*.

² Watershed Multipurpose, Supply Reliability/Demand Reduction, Ecosystem/Recreation, Water Quality/Safe Drinking, Admin/Misc.



Flood Management Requires Stable and Sustainable Funding

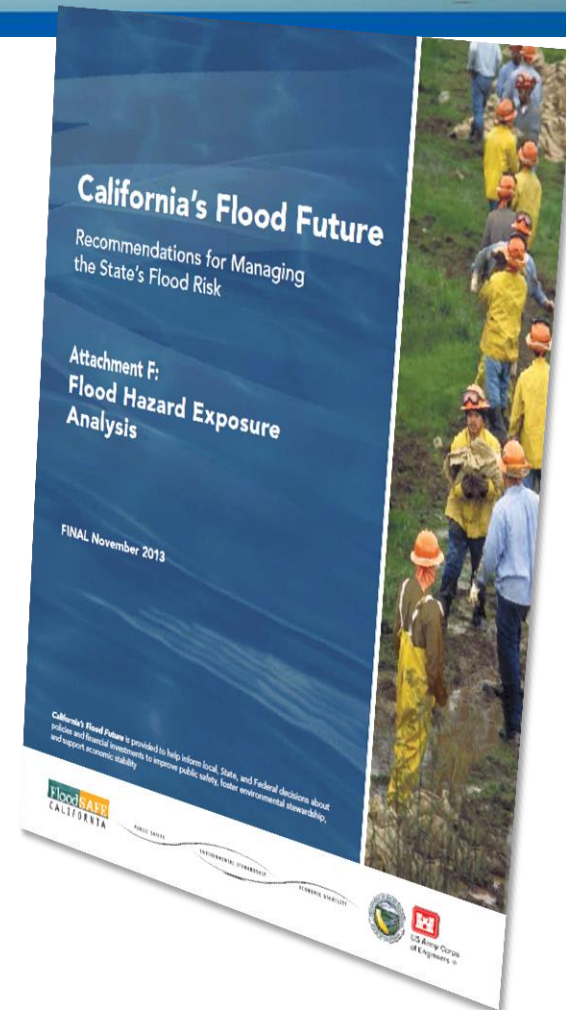


Different Types of Flooding in CA



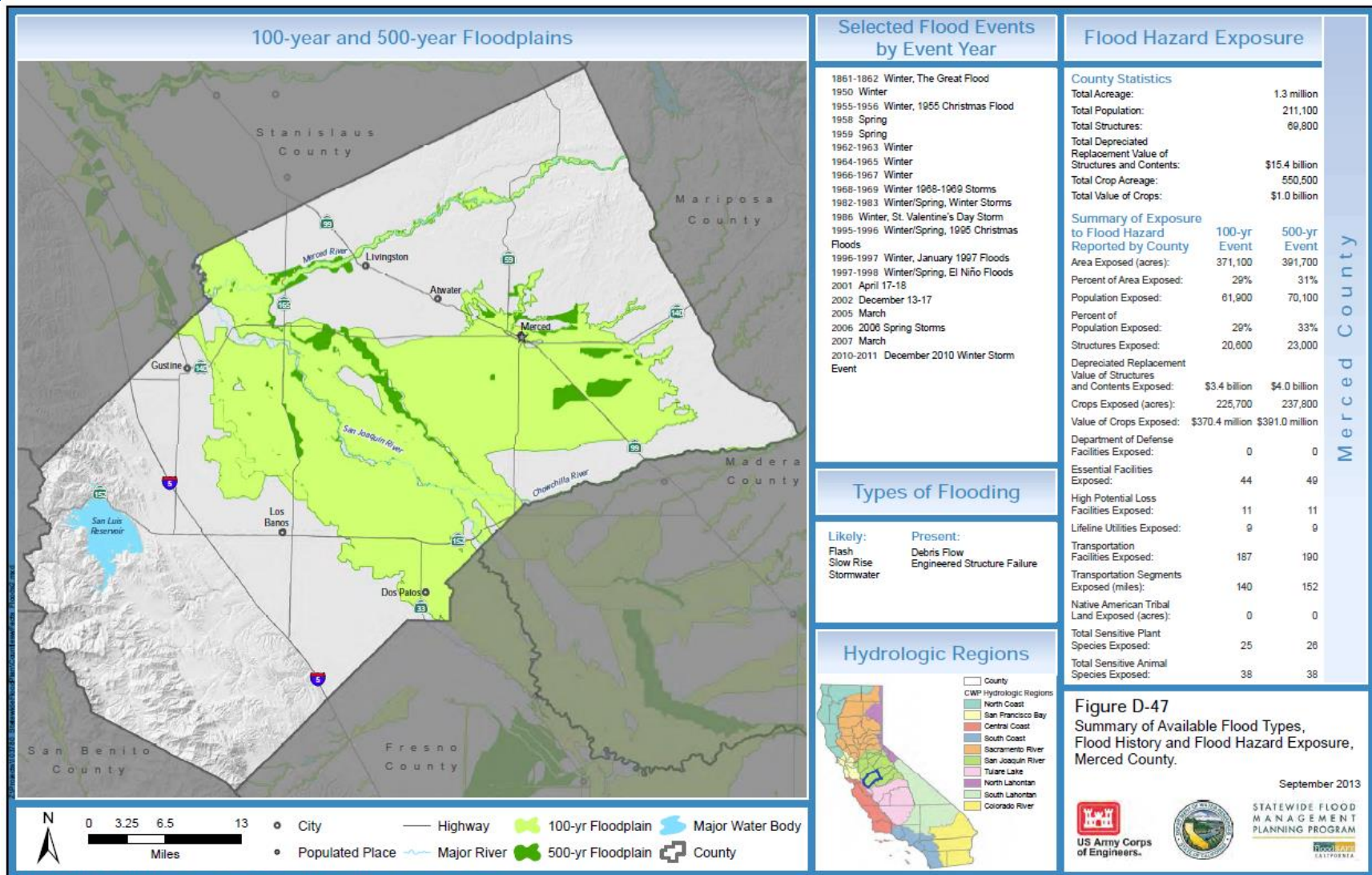
Figure F-31
Types of Flooding in California

August 29, 2013



California's Flood Future: Flood Hazard Exposure Analysis (Nov. 2013), CA DWR

Pros and Cons of Existing Understanding of Exposure: Merced County Example



DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

Pros and Cons of Existing Understanding of Exposure: Orange County Example

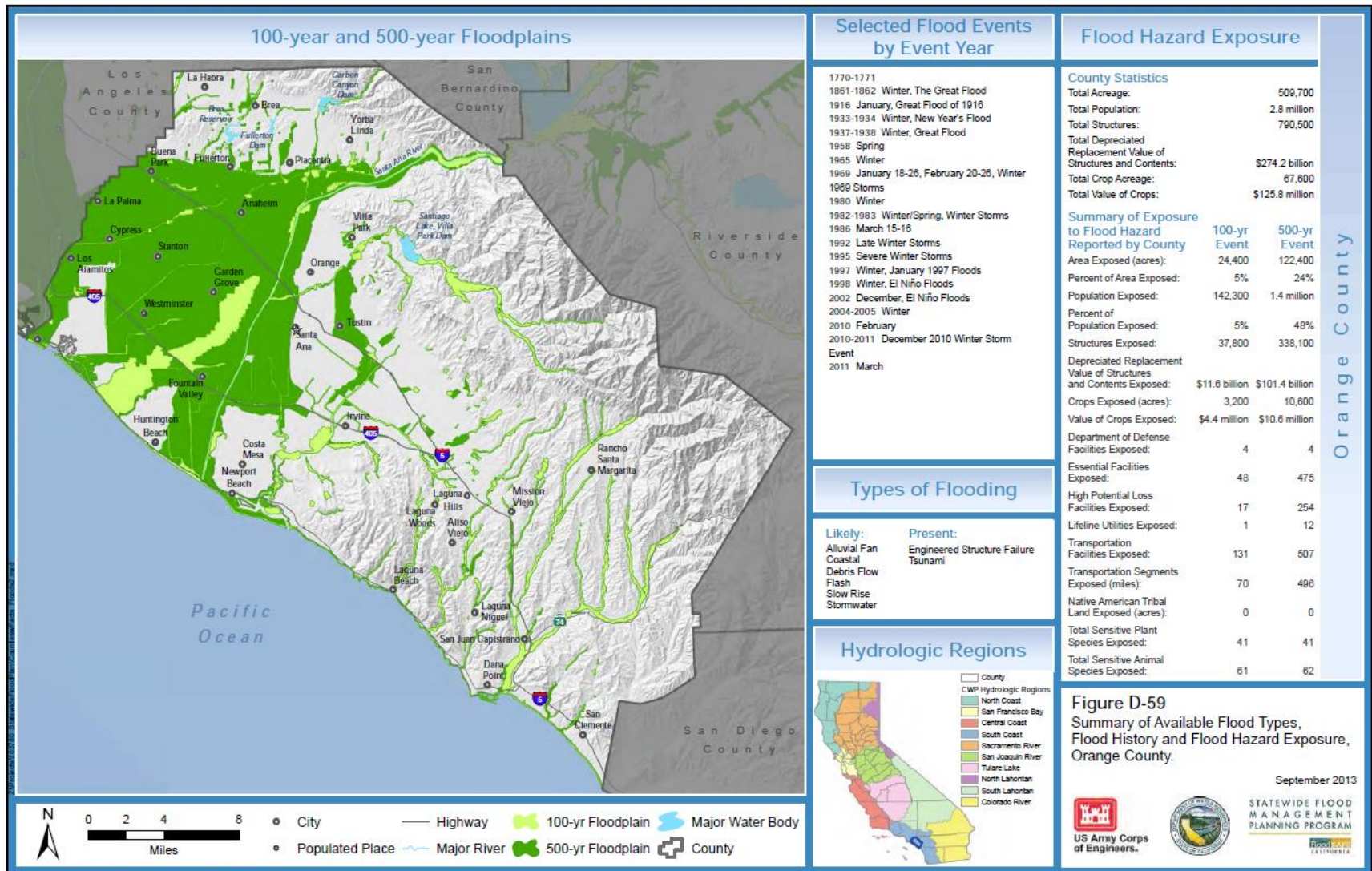










Figure D-59
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Orange County.









September 2013











Flood Management Funding Mechanisms Must Match Needs

| Financing Mechanism | Potential Management Actions that Could Be Funded by Financing Mechanisms | | | | | | | |
|--|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| | Storage | Levee/Channel Improvements | Levee Setbacks | Bypass Expansions | Easements and Land Acquisitions | Emergency Management | Rehabilitation of Infrastructure | Institutional Capacity and O&M |
| Local Agency Funding Mechanisms | | | | | | | | |
| General Fund | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| General Obligation Bonds | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | |
| Municipal Stormwater Utility Fee | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Development Impact Fees | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | |
| Mello-Roos Community Facilities District | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Assessment District | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Enhanced Infrastructure Financing District | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | |
| General Fund | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Flood Management Funding Mechanisms Must Match Needs

| Financing Mechanism | Potential Management Actions that Could Be Funded by Financing Mechanisms | | | | | | | |
|-------------------------------|---|---|---|---|---|---|---|---|
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| | Storage | Levee/Channel Improvements | Levee Setbacks | Bypass Expansions | Easements and Land Acquisitions | Emergency Management | Rehabilitation of Infrastructure | Institutional Capacity and O&M |
| State Funding Mechanisms | | | | | | | | |
| General Fund | | | | | ✓ | ✓ | | ✓ |
| General Obligation Bonds | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Environmental Grant Programs | | | ✓ | | ✓ | | | |
| State Flood Insurance Program | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Carbon Tax | | | ✓ | | ✓ | | | |
| River-Basin Assessment | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Public Goods Charge | ✓ | | ✓ | | ✓ | | | |
| Water Use Fee | ✓ | | ✓ | | ✓ | | | |

Flood Management Funding Mechanisms Must Match Needs

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|------------------------------|---|---|---|---|---|---|---|---|
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| | Storage | Levee/Channel Improvements | Levee Setbacks | Bypass Expansions | Easements and Land Acquisitions | Emergency Management | Rehabilitation of Infrastructure | Institutional Capacity and O&M |
| Federal Funding Mechanisms | | | | | | | | |
| FEMA | | | | | | ✓ | ✓ | |
| USACE | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | |
| Reclamation | | | | | | | | ✓ |
| NRCS | | ✓ | | ✓ | | | ✓ | ✓ |
| Environmental Grant Programs | | | ✓ | ✓ | ✓ | | | |

Need a New Way of Working Together – River Basin Planning





A New Way of Working Together – Consistent, Comprehensive River Basin Planning

Benefits of working at a River Basin scale:

- Generates understanding and buy-in among stakeholders
- Enables customized regulatory standards
- Improves coordination of services
- Reduces duplication of agencies' roles
- Provides opportunities for knowledge sharing
- Leverages funding and improves the return on investment

Interface with Update 2018 Finance Plan

- 1. Shared Intended Outcomes**
2. Policy and Actions Assessments
3. Existing Funding
- 4. Funding Gaps**
5. State Roles and Partnerships
- 6. Funding Demands**
- 7. Effective Funding Mechanisms**
8. Return on Investments



Key Points – Statewide Flood Finance Planning

- Public / collective services are different than private / consumptive services, because the service is “nonexclusive”.
- Nearly \$100B of flood focused projects have been identified, but it is difficult to gain broad public interest in financing these projects.
- Different financing mechanisms exist not only for the level of government (federal, state, or local), but for the type of investment activity.
- Just as water management projects need to address regional needs, financing mechanisms and regulatory standards should also be tailored for the river basin(s) in which the activity will be implemented.